

## AMENDMENTS TO THE CLAIMS

Claims 1-8. (Canceled)

9. (New) A method of servicing queues by a queue scheduling mechanism in a data packet transmission system, the data packet transmission system including a transmission device for transmitting data packets, a reception device for receiving said data packets, a set of queue devices respectively associated with a set of priorities each defined by a priority rank for storing each of data packet transmitted by said transmission device into the queue device corresponding to one of said priority ranks and a queue scheduler for reading, at each packet cycle, a data packet in one of said queue devices determined by a normal priority preemption algorithm, the method comprising the steps of:

a) receiving from a credit device at each packet cycle a value N defining the priority rank to be considered by said queue scheduler, the considered priority rank is selected based on a pre-determined value related to all of said priority ranks which are associated with said queue scheduling mechanism;

b) obtaining authorization to send a data packet corresponding to the priority rank N;

c) determining whether said data packet corresponding to the priority rank N is in said queue device corresponding to the priority rank N; and,

d) when said data packet corresponding to the priority rank N is in said queue device corresponding to the priority rank N, reading said data packet corresponding to priority rank N by said queue scheduler from said queue device corresponding to the priority rank N instead of said queue device determined by the normal priority preemption algorithm.

10. (New) The method of claim 1, wherein said steps (a) - (d) are repeated iteratively until a pre-determined condition is satisfied.

11. (New) The method of claim 1, wherein when authorization to send said data packet

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corresponding to the priority rank N is not obtained or when said data packet corresponding to the priority rank N is not in said queue device corresponding to the priority rank N, performing a step of reading a data packet by said queue scheduler from said queue device determined by the normal priority preemption algorithm.